

WHAT IS CLAIMED IS:

1. A drill with a base body (1) and a replaceable cutting insert (3), whereby the cutting insert sits in a receptacle (4) that runs through the base body at a right angle to its longitudinal axis (2) and opens toward the drill tip (16), and whereby the cutting insert (3) is in contact with the side walls (5) of the receptacle (4) with two diametrically opposite contact surfaces, characterized by the fact that between each contact surface of the cutting insert (3) and a side wall (5) of the receptacle, there is a groove (8) that extends in the direction of the longitudinal axis (2), in which groove a clamping wedge sits with a form-fit and a friction-fit and interacts with the base body (1) and the cutting insert (3) in the manner of a self-locking device that is effective toward the drill tip (16).

2. The drill as claimed in Claim 1, characterized by the fact that the clamping wedges are the legs (10) of a U-shaped clip (9).

3. The drill as claimed in Claim 2, characterized by the fact that the grooves (8) are located in the cutting insert, and that the outside surfaces (14) of the clamping wedges and the areas of the side walls of the receptacle (4) that interact with them run parallel to the longitudinal axis (2), and that the inside surfaces (15) of the clamping wedges and the segments of the groove base surface (18) that interact with them each form an angle (β) that becomes narrower toward the drill tip, whereby the friction between the outside surfaces (14) and the side wall (5) is greater than the friction between the inside surface (15) and

the base surface (18) of the groove.

4. The drill as claimed in Claim 3, characterized by an angle (β) of 1° to 8°.

5. The drill as claimed in Claim 4, characterized by the fact that the connecting web (12) of the clip (9) running between the legs (10) is cambered in its middle segment toward the drill tip.

6. The drill as claimed in Claim 2, characterized by the fact that the grooves (8a) are countersunk into the side wall (5) of the cutting insert (3) and that the inside surfaces (15) of the clamping wedges and the portions of the contact areas of the cutting insert (3) that interact with them run parallel to the longitudinal axis (2) of the drill, and that the outside surfaces (14) of the clamping wedges and the groove base surface (18a) that interacts with them each form an angle (γ) that narrows toward the drill tip (16), whereby the friction between the outside surface (14) and the groove base surface (18a) is less than the friction between the inside surface (15) and the contact surface of the cutting part (3).

7. The drill as claimed in Claim 6, characterized by the fact that there is an axial space (28) between the cutting insert (3) and the connecting web (12) of the clip (9).

8. The drill as claimed in Claim 7, characterized by the fact that the clip (9) sits in the receptacle (4) under an elastic bias, whereby the outside surfaces (14) of the clamping wedges press against the side walls (5) of the receptacle (4).

9. The drill as claimed in Claim 8, characterized by the

09963E-09963E

fact that the cutting insert (3) sits in the receptacle (4) with a radially effective form fit.

10. The drill as claimed in Claim 1, characterized by the fact that the grooves (8) are located in the cutting insert, and that the outside surfaces (14) of the clamping wedges and the areas of the side walls of the receptacle (4) that interact with them run parallel to the longitudinal axis (2), and that the inside surfaces (15) of the clamping wedges and the segments of the groove base surface (18) that interact with them each form an angle (β) that becomes narrower toward the drill tip, whereby the friction between the outside surfaces (14) and the side wall (5) is greater than the friction between the inside surface (15) and the base surface (18) of the groove.

11. The drill as claimed in Claim 3, characterized by the fact that the connecting web (12) of the clip (9) running between the legs (10) is cambered in its middle segment toward the drill tip.

12. The drill as claimed in Claim 1, characterized by the fact that the grooves (8a) are countersunk into the side wall (5) of the cutting insert (3) and that the inside surfaces (15) of the clamping wedges and the portions of the contact areas of the cutting insert (3) that interact with them run parallel to the longitudinal axis (2) of the drill, and that the outside surfaces (14) of the clamping wedges and the groove base surface (18a) that interacts with them each form an angle (γ) that narrows toward the drill tip (16), whereby the friction between the outside surface (14) and the groove base surface (18a) is less

19. The drill as claimed in Claim 4, characterized by the fact that the clip (9) sits in the receptacle (4) under an elastic bias, whereby the outside surfaces (14) of the clamping wedges press against the side walls (5) of the receptacle (4).

[illegible]